1. Read this sentence.

Just when those who were viewing from the beach feared the worst, the swimmers themselves are the most confident.

Which edit should be made to correct this sentence?

A. change ***those*** to ***they***
B. change ***the worst*** to ***the worse***
C. change ***themselves*** to ***their selves***
D. change ***are*** to ***were***

2. Read this sentence.

There are many regular customers whose faces have become familiar—mostly older people from around the neighborhood.

If the phrase "mostly older people from around the neighborhood" were deleted, what would the sentence primarily lose?

A. foreshadowing of the next sentence
B. an understatement of important information
C. specific descriptive material
D. a detail providing a transition

3. Read this sentence.

The problem of air pollution, often compounded in certain areas because the treatment and release of industrial wastes are not adequately regulated.

Which rewrite of the sentence is smooth and uses the appropriate conjunction?

A. The problem of air pollution is often compounded in certain areas where the treatment and release of industrial wastes are not adequately regulated.
B. The problem of air pollution, often compounded in certain areas when the treatment and release of industrial wastes are not adequately regulated.
C. The problem of air pollution is often compounded in certain areas and the treatment and release of industrial wastes are not adequately regulated.
D. The problem of air pollution, often compounded in certain areas and the treatment and release of industrial wastes are not adequately regulated.

4. Read this paragraph.

(1) Every year my school hosts international exchange students, those youths join our junior class. (2) Each teenager usually lives with the family of one of the upperclassmen. (3) I can remember students from Europe Asia South America and Africa. (4) Last month, one of our school's exchange students, Maria Gonzalez, who came from Cancun, Mexico.

Which of the following is <u>not</u> an error in the paragraph that needs revision?

A. Sentence 1 is a run-on sentence.
B. Sentence 2 uses passive voice.
C. Sentence 3 needs punctuation.
D. Sentence 4 is a sentence fragment.

5. Read this sentence.

Though the statistics on their experiment were neither precise or significant, the scientists still published them.

Which edit is needed to correct this sentence?

A. change ***Though*** to ***While***
B. change ***their*** to ***there***
C. change ***were*** to ***was***
D. change ***or*** to ***nor***

6. Read this paragraph.

(1) Marco Polo was captured in battle by Venice's archrival Genoa. (2) While in prison he met the Arthurian adventure writer Rustichello of Pisa, with whom he would collaborate on a manuscript called "Description of the World". (3) It has since become better known as "The Travels of Marco Polo" or simply "The Travels". (4) With the help of notes taken during his adventures, Marco Polo respectfully described Khubilai Khan and his palaces, along with a number of innovations that had not yet appeared in Europe. (5) He also told partially inaccurate exaggerated tales about warfare, commerce, geography and practices of the people who lived under Mongol rule. (6) A Genoese-Venetian peace treaty allowed Marco Polo to return home.

Which sentence begins the transition to describing the subject matter of Marco Polo's writings?

A. sentence 4
B. sentence 2
C. sentence 5
D. sentence 3

7. Read these sentences.

Today's assignment is slowly materializing before your eyes. Suddenly, without warning, all the text in front of you tumbles to the bottom of your screen.

If these sentences were edited so the second-person pronouns *you* and *your* were replaced with pronouns *one* and *one's*, what would primarily be lost?

A. a sense of directly addressing and advising the reader
B. an immediacy of the setting in terms of time and place
C. a more polite and formal tone appropriate to the purpose of the sentences
D. an accessibility by speaking to a broader audience

8. Read this sentence.

The reason for the sustained popularity of jazz performers is <u>that it draws on</u> experiences with which almost everyone can identify.

Which phrase is the best alternative to the underlined portion in the sentence?

A. they will draw from
B. because of them drawing on
C. that their music draws on
D. because the music draws on

9. Read this paragraph.

(1) The transportation industry underwent significant transformation during the Industrial Revolution. (2) Before the advent of the steam engine, raw materials and finished goods were hauled and distributed via horse-drawn wagons, and by boats along canals and rivers. (3) American Robert Fulton built the first commercially successful steamboat, and by the mid-19th century, steamships were carrying freight across the Atlantic. (4) Transatlantic flight surpassed ocean liners as the predominant mode of crossing the Atlantic in the mid-20th century. (5) As steam-powered ships were making their debut, the steam locomotive was also coming into use. (6) British engineer Richard Trevithick constructed the first railway steam locomotive. (7) England's Liverpool and Manchester Railway became the first to offer regular, timetabled passenger services.

Which sentence can be omitted because it contains information unrelated to the main topic of the paragraph?

A. sentence 5
B. sentence 6
C. sentence 3
D. sentence 4

(1) A major obstacle for scientists has always been calculating the age of the fossils and other substances they discover beneath the Earth. (2) One technique of common usage is carbon-14 dating. (3) Carbon-14 dating is fairly clear-cut. (4) It is a safe radioactive substance located in the Earth's atmosphere. (5) Organisms absorb carbon-14 into their tissues while they are active. (6) After they die, however, they stop absorbing carbon-14, and the carbon-14 in their bodies starts to degenerate. (7) The process of decay that makes carbon-14 dating possible. (8) Researchers who work with radioactive material like carbon-14 have established the term "half-life." (9) The "half-life" of a material is the length of time it takes for half of the atoms in a sample to decay. (10) Various radioactive substances have half-lives ranging from seconds to thousands of years. (11) Carbon-14 has a half-life of 5730 years.

(12) A physical chemist named William Libby was the first person to use carbon-14 dating, in 1949. (13) Libby used the idea of "half-life" to conclude that animal and plant remains having half the amounts of carbon-14 expected in a living organism were 5730 years old. (14) Those remains containing less than half the expected amounts were older; the ones that contained more than half were younger.

10 **In context, which of the following is the best version of sentence 2 ?**

A. One commonly used technique is carbon-14 dating.
B. One technique has been commonly used, it is carbon-14 dating.
C. One technique the use of which has been common is carbon-14 dating.
E. One technique that people have been known to use commonly is carbon-14 dating.

11 **In context, which of the following is the best version of sentences 3 and 4 ?**

A. Carbon-14 dating is fairly clear-cut, Carbon-14 is a safe radioactive substance located in the Earth's atmosphere.
B. Carbon-14 dating is fairly clear-cut, because Carbon-14 is a safe radioactive substance located in the Earth's atmosphere.
C. Carbon-14 dating is fairly clear-cut. Carbon-14 is a safe radioactive substance located in the Earth's atmosphere.
D. Carbon-14 dating is fairly clear-cut. However, Carbon-14 is a safe radioactive substance located in the Earth's atmosphere.

12 **In context, which of the following sentences would be best to insert between sentence 12 and sentence 13 ?**

A. Libby was preoccupied with the problem of harmful radioactive waste.
B. Libby realized that the plant and animal remains he was studying contained traces of carbon-14.
C. He was studying a group of specimens that showed no signs of the presence of carbon-14.
D. Libby believed that the concept of "half-life" was fundamentally flawed.

13 **The main purpose of paragraph 2 is to**

A. present a memorable example
B. identify a common misconception
C. explain a puzzling contradiction
D. introduce an important concept

14 **In context, what is the best way to deal with sentence 7 ?** (next page)

A. delete ***that***
B. place a comma before ***that***
C. insert ***is the thing*** before ***that***
D. delete ***The process of***

15 **Which of the following should replace the phrase "the ones that contained" in sentence 14 ?**

Those remains containing less than half the expected amounts were older; <u>the ones that contained</u> more than half were younger.

A. the ones with a containment of
B. the remaining ones with
C. those containing
D. and if contained by

(1) Consumers in the U.S.A. watch out—there's a new way to purchase items, and it's coming to a store near you. (2) As recently as a decade ago, less than ten per cent of American supermarkets had self-checkout lines. (3) By 2004 the number had risen to almost forty per cent. (4) And half of those markets in the study without self-checkout claimed they intended to add the service. (5) Supplies giant Office Depot was among the first major retailers to use these machines.

(6) I recall when I first took the self-checkout plunge. (7) It was a popular chain supermarket near my workplace. (8) One day I saw three bulky electronic units taking up prime space in a prominent area of the store, enticing customers with the promise of shorter lines. (9) I was tempted, not afraid. (10) It's so convenient to let the cashier scan the items, collect the coupons, grab the money—was I up to the task of do-it-yourself? (11) I found myself staring at a machine, fumbling with my groceries and cash as I fought the blinking computer screen. (12) Circumstances were driving me to face my fears. (13) When I finally arrived at the head of my line, the cashier declared it was time for her break.

16 **Which sentence should be deleted from the essay because it contains unrelated information?**

A. Sentence 5
B. Sentence 7
C. Sentence 8
D. Sentence 12

17 **All of the following strategies are used by the writer of the passage EXCEPT**

A. statistical evidence
B. imaginative description
C. direct quotation
D. humorous example

18 **In context, which of the following is the best phrase to insert at the beginning of sentence 12 ?**

A. The result was that
B. But as it turned out,
C. In most cases,
D. I remembered that

19 **In context, which of the following is the best version of sentences 6 and 7 ?**

A. I recall when I first took the self-checkout plunge. It happened that there was a popular chain supermarket near my workplace.
B. I recall when I first took the self-checkout plunge, which was a popular chain supermarket near my workplace.
C. I recall when I first took the self-checkout plunge, it happened to be at a popular chain supermarket near my workplace.
D. I recall when I first took the self-checkout plunge. It happened at a popular chain supermarket near my workplace.

20 **The best way to describe the relationship of paragraph 2 to paragraph 1 is that paragraph 2**

A. uses an anecdote to illustrate the facts presented in paragraph 1
B. provides facts to support a claim made in paragraph 1
C. tells a story that contradicts a theory offered in paragraph 1
D. gives information that calls into question the statistics in paragraph 1

Passage I

PROSE FICTION: This passage is an excerpt from the short story "Graduation," by John Krupp.

Rosemary sat at her kitchen table, working at a crossword puzzle. Crosswords were nice; they filled the time and kept the mind active. She needed just one word to complete this morning's puzzle; the clue was "a Swiss river," and the first of its three letters was *A*. Unfortunately, Rosemary had no idea what the name of the river was and could not look it up. Her atlas was on the desk, and the desk was in the guest room, currently being occupied by her grandson Victor. Looking up over the tops of her bifocals, Rosemary glanced at the kitchen clock: it was almost 10 a.m. *Land sakes!* Did the boy intend to sleep all day? She noticed that the arthritis in her wrist was throbbing, and she put down her pen. At eighty-seven years of age, she was glad she could still write at all. She had decided long ago that growing old was like slowly turning to stone; you couldn't take anything for granted. She stood up slowly, painfully, and started walking to the guest room.

The trip, though only a distance of about twenty-five feet, seemed to take a long while. Late in her ninth decade now, Rosemary often experienced an expanded sense of time, with present and past tense intermingling in her mind. One minute she was padding in her slippers across the living room carpet; the next she was back on the farm where she'd grown up, a sturdy little girl treading the path behind the barn just before dawn. In her mind's eye, she could still pick her way among the stones in the darkness, more than seventy years later. Rosemary arrived at the door to the guest room. It stood slightly ajar, and she peered through the opening. Victor lay sleeping on his side, his arms bent, his expression slightly pained. *Get up, lazy bones*, she wanted to say. Even in childhood, Rosemary had never slept past 4:00 A.M.; there were too many chores to do. How different things were for Victor's generation! Her youngest grandson behaved as if he had never done a chore in his life. Twenty-one years old, he had driven down to Florida to visit Rosemary in his shiny new car, a gift from his doting parents. Victor would finish college soon, and his future appeared bright—if he ever got out of bed, that is.

Something Victor had said last night over dinner had disturbed her. Now what was it? Oh yes; he had been talking about one of his college courses—a "gut," he had called it. When she had asked him to explain the term, Victor had said it was a course that you took simply because it was easy to pass. Rosemary, who had not even had a high school education, found the term repellent. If she had been allowed to continue her studies, she would never have taken a "gut." . . . The memory flooded back then, still painful as an open wound all these years later. It was the first day of high school. She had graduated from grammar school the previous year, but her father had forbidden her to go on to high school that fall, saying that she was needed on the farm. After much tearful pleading, she had gotten

him to promise that next year, she could start high school. She had endured a whole year of chores instead of books, with animals and rough farmhands for company instead of people her own age. Now, at last, the glorious day was at hand. She had put on her best dress (she owned two), her heart racing in anticipation. But her father was waiting for her as she came downstairs.

"Where do you think you're going?" he asked.

"To high school, Papa."

"No you're not. Take that thing off and get back to work."

"But Papa, you promised!"

"*Do as I say!*" he thundered.

There was no arguing with Papa when he spoke that way. Tearfully, she had trudged upstairs to change clothes. Rosemary still wondered what life would have been like if her father had not been waiting at the bottom of the stairs that day, or if somehow she had found the strength to defy him.

21 The author most likely regards Rosemary with:

A. sympathy.
B. anger.
C. disappointment.
D. confusion.

22 It can be inferred from the passage that Rosemary is disturbed by Victor's:

F. intention to drop out of college.
G. disregard for her harsh upbringing.
H. willingness to take courses that are easy to pass.
J. inability to get out of bed in the morning.

23 The passage suggests that in the year after she finished grammar school, Rosemary most wanted:

A. an escape from her father's company.
B. the opportunity to go to college.
C. the chance to study challenging subjects.
D. the company of people her own age.

24 The passage suggests that Rosemary's attitude toward the physical afflictions of old age is generally one of:

F. sadness.
G. acceptance.
H. resentment.
J. optimism.

25 According to the passage, Rosemary does crossword puzzles in order to:

A. keep her mind active.
B. practice her handwriting.
C. learn new geographical facts.
D. make her more aware of time.

26 As it is used in line 23, the word *expanded* most nearly means:

F. better.
G. broadened.
H. unfurled.
J. abridged.

27 In line 41, the author mentions Victor's "shiny new car" in order to illustrate:

A. the excessive generosity of Rosemary's parents.
B. the contrast between Rosemary's generation and his.
C. the strength of Victor's prospects for the future.
D. the lack of physical hardship in Victor's life.

28 The third paragraph (lines 44–67) primarily portrays Rosemary in her youth as:

F. resentful of her father's conduct.
G. eager to continue her education.
H. undecided about her future career.
J. proud of her appearance.

29 Rosemary's recollection of growing up on the farm (lines 26–30) is mentioned as an example of her:

A. nostalgia for her childhood experiences.
B. determination to overcome her physical disabilities.
C. ability to recall past and present events at the same time.
D. disappointment at being denied an education.

30 The author intends the statement that Victor's "future appeared bright" (lines 42–43) to reflect the opinion of:

F. Rosemary.
G. Victor.
H. Victor's parents.
J. Rosemary's father.

Passage III

HUMANITIES: This passage is an excerpt from *A Short History of Western Civilization, Volume 1*, by John B. Harrison, Richard E. Sullivan, and Dennis Sherman, © 1990 by McGraw-Hill, Inc. Reprinted by permission of McGraw-Hill, Inc.

Enlightenment ideas were put forth by a variety of intellectuals who in France came to be known as the philosophes. *Philosophes* is French for philosophers, and in a sense, these thinkers were rightly considered philosophers, for the questions they dealt with were philosophical: How do we discover truth? How should life be lived? What is the nature of God? But on the whole, the term has a meaning different from the usual meaning of *philosopher*. The philosophes were intellectuals, often not formally trained or associated with a university. They were usually more literary than scientific. They generally extended, applied, popularized, or propagandized ideas of others rather than originating those ideas themselves. The philosophes were more likely to write plays, satires, pamphlets, or simply participate in verbal exchanges at select gatherings than to write formal philosophical books.

It was the philosophes who developed the philosophy of the Enlightenment and spread it to much of the educated elite in Western Europe (and the American colonies). Although the sources for their philosophy can be traced to the Scientific Revolution in general, the philosophes were most influenced by their understanding of Newton, Locke, and English institutions.

The philosophes saw Newton as the great synthesizer of the Scientific Revolution who rightly described the universe as ordered, mechanical, material, and only originally set in motion by God, who since then has remained relatively inactive. Newton's synthesis showed to the philosophes that reason and nature were compatible: Nature functioned logically and discernibly, and what was natural was also reasonable. Newton exemplified the value of reasoning based on concrete experience. The philosophes felt that his empirical methodology was the correct path to discovering truth.

John Locke (1632–1704) agreed with Newton but went further. This English thinker would not exempt even the mind from the mechanical laws of the material universe. In his *Essay Concerning Human Understanding* (1691), Locke pictured the human brain at birth as a blank sheet of paper on which nothing would ever be written except sense perception and reason. What human beings become depends on their experiences—on the information received through the senses. Schools and social institutions could therefore play a great role in molding the individual from childhood to adulthood. Human beings were thus by nature far more malleable than had been assumed. This empirical psychology of Locke rejected the notion that human beings were born with innate ideas or that revelation was a reliable source of truth. Locke also enunciated liberal and reformist political ideas in his *Second Treatise of Civil Government* (1690), which influenced the philosophes. On the whole, Locke's empiricism, psychology, and politics were appealing to the philosophes.

England, not coincidentally the country of Newton and Locke, became the admired model for many of the philosophes. They tended to idealize it, but England did seem to allow greater individual freedom, tolerate religious differences, and evidence greater political reform than other countries, especially France. England seemed to have gone furthest in freeing itself from traditional institutions and accepting the new science of the seventeenth century. Moreover, England's approach seemed to work, for England was experiencing relative political stability and prosperity. The philosophes wanted to see in their own countries much of what England already seemed to have.

Many philosophes reflected the influence of Newton, Locke, and English institutions, but perhaps the most representative in his views was Voltaire (1694–1778). Of all leading figures of the Enlightenment, he was the most influential. Voltaire, the son of a Paris lawyer, became the idol of the French intelligentsia while still in his early twenties. His versatile mind was sparkling; his wit was mordant. An outspoken critic, he soon ran afoul of both church and state authorities. First he was imprisoned in the Bastille; later he was exiled to England. There he encountered the ideas of Newton and Locke and came to admire English parliamentary government and tolerance. In *Letters on the English* (1732), *Elements of the Philosophy of Newton* (1738), and other writings, he popularized the ideas of Newton and Locke, extolled the virtues of English society, and indirectly criticized French society. Slipping back into France, he was hidden for a time and protected by a wealthy woman who became his mistress. Voltaire's facile mind and pen were never idle. He wrote poetry, drama, history, essays, letters, and scientific treatises—ninety volumes in all. The special targets of his cynical wit were the Catholic church and Christian institutions. Few people in history have dominated their age intellectually as did Voltaire.

31 The philosophes can best be described as:

A. writers swept up by their mutual admiration of John Locke.
B. professors who lectured in philosophy at French universities.
C. intellectuals responsible for popularizing Enlightenment ideas.
D. scientists who furthered the work of the Scientific Revolution.

32 From the author's point of view, the philosophes were:

F. Deservedly influential
G. Seriously misguided
H. Unoriginal in their thinking
J. Excellent writers but poor philosophers

33 According to the passage, Locke felt that schools and social institutions could "play a great role in molding the individual" (lines 49–50) primarily because:

A. human beings were born with certain innate ideas.
B. human nature becomes more malleable with age.
C. society owes each individual the right to an education.
D. the human mind is chiefly influenced by experience.

34 Based on the information in the passage, which of the following best describes Newton's view of the universe?

I. The universe was initially set in motion by God.
II. Human reason is insufficient to understand the laws of nature.
III. The universe operates in a mechanical and orderly fashion.

F. I only
G. I and II only
H. I and III only
J. II and III only

35 According to the passage, which of the following works questioned the idea that revelation was a reliable source of truth?

A. *Letters on the English*
B. *Second Treatise of Civil Government*
C. *Elements of the Philosophy of Newton*
D. *Essay Concerning Human Understanding*

36 The passage supports which of the following statements concerning the relationship between Newton and Locke?

F. Locke's psychology contradicted Newton's belief in an orderly universe.
G. Locke maintained that Newton's laws of the material universe also applied to the human mind.
H. Newton eventually came to accept Locke's revolutionary ideas about the human mind.
J. Newton's political ideas were the basis of Locke's liberal and reformist politics.

37 According to the passage, the philosophes believed that society should:

I. allow individuals greater freedom.
II. free itself from traditional institutions.
III. tolerate religious differences.

A. I only
B. I and II only
C. II and III only
D. I, II, and III

38 It can be inferred from the passage that the author regards England's political stability and economic prosperity as:

F. the reason why the philosophes did not idealize England's achievement.
G. evidence that political reforms could bring about a better way of life.
H. the result of Voltaire's activities after he was exiled to England.
J. an indication that the Scientific Revolution had not yet started there.

39 As it is used in line 83, the word *mordant* most nearly means:

A. random.
B. intellectual.
C. gentle.
D. biting.

40 What function does the statement that philosophes were "more literary than scientific" (line 12) play in the passage?

F. It demonstrates how the philosophes' writings contributed to political change.
G. It compares the number of works that Voltaire authored to Newton's output.
H. It traces the influences of English literary works on French scientists.
J. It describes the kinds of literary activities the philosophes commonly engaged in.

Passage IV

NATURAL SCIENCE: This passage explores the theory that a large asteroid collided with the Earth 65 million years ago.

Sixty-five million years ago, something triggered mass extinctions so profound that they define the geological boundary between the Cretaceous and Tertiary periods (the K-T Boundary). Approximately 75 percent of all animal species, including every species of dinosaur, were killed off; those that survived lost the vast majority of their numbers. The Earth exists in a region of space teeming with asteroids and comets that on collision have frequently caused enormous environmental devastation, including extinctions of animal species. Yet few traditional geologists or biologists considered the effect such impacts may have had on the geologic and biologic history of the Earth. Since gradual geologic processes like erosion or repeated volcanic eruptions can explain the topographical development of the Earth, they felt that there was no need to resort to extraterrestrial explanations.

An important theory proposed in 1980 by physicists Luis and Walter Alvarez challenged this view. The Alvarezes argued that an asteroid roughly six miles in diameter collided with the Earth in the K-T Boundary. Although the damage caused by the meteorite's impact would have been great, the dust cloud that subsequently would have enveloped the planet, completely blotting out the sun for up to a year—the result of soil displacement—would have done most of the harm, according to this theory. The plunge into darkness—and the resulting drastically reduced temperatures—would have interrupted plant growth, cutting off the food supply to herbivorous species, the loss of which in turn would have starved carnivores. Additional species would have perished as a result of prolonged atmospheric poisoning, acid rain, forest fires, and tidal waves, all initiated by the asteroid's impact.

Some subsequent research not only tended to support the Alvarez theory but suggested that similar impacts may have caused other sharp breaks in Earth's geologic and biologic history. Research in the composition of the Earth revealed a 160-fold enrichment of iridium all over the world in a thin layer of sediments formed at the K-T Boundary. The presence of this element, which is extremely uncommon in the Earth's crust but very common in asteroids and comets, suggested that a meteorite must have struck Earth at that time. Additional physical evidence of such a strike was found in rock samples, which contained shocked quartz crystals and microtektites (small glass spheres)—both by-products of massive collisions.

Observation of the lunar surface provided further evidence of the likelihood of a massive strike. Since the moon and the Earth lie within the same swarm of asteroids and comets, their impact histories should be parallel. Although some lunar craters were of volcanic origin, over the last four billion years at least five impact craters ranging from 31 to 58 miles in diameter have marred the lunar surface. Therefore, over the same time span, Earth must have experienced some 400 collisions of similar magnitude. Although such an impact crater had not been found, Alvarez supporters didn't consider finding it necessary or likely. They reasoned that geologic processes over 65 million years, like erosion and volcanic eruptions, would have obscured the crater, which in any case probably formed on the ocean floor.

Traditional biologists and geologists resisted the Alvarez theory. They pointed to the absence of any impact crater; to the fact that iridium, while rare at the Earth's surface, was common at its core and could be transported to the surface by volcanic activity; and to the fact that the Alvarezes, though eminent physicists, were not biologists, geologists, or paleontologists.

41 According to the Alvarez theory, the mass extinctions of animal species at the end of the Cretaceous period were caused by:

A. animals being crushed by an enormous asteroid.
B. processes like erosion and repeated volcanic eruptions.
C. extreme global warming causing a global firestorm.
D. environmental conditions following a meteorite impact.

42 Based on the information in the passage, the author probably believes that those who held the traditional views about the topographical development of the Earth were:

F. proven incorrect by the Alvarezes.
G. skeptical about the new evidence of iridium.
H. correct in challenging alternative views.
J. unreceptive to new evidence.

43 As it is used in line 42, the word *enrichment* most nearly means:

A. wealth.
B. improvement.
C. increase in amount.
D. reward.

44 The views of scientists who opposed the Alvarez theory would have been strengthened if:

F. major deposits of iridium were found in the lava flows of active Earth volcanoes.
G. iridium were absent in sediments corresponding to several episodes of mass extinction.
H. iridium were absent in fragments of several recently recovered meteorites.
J. the Alvarezes were biologists as well as physicists.

45 The author's attitude toward the Alvarez theory is best characterized as:

A. dismissive.
B. neutral.
C. skeptical.
D. supportive.

46 According to the passage, which of the following is the correct order of events in the Alvarez theory explaining the mass extinction of species at the end of the Cretaceous period?

F. Soil displacement, disappearance of the sun, decline of plant life, fall in temperature
G. Soil displacement, disappearance of the sun, fall in temperature, decline of plant life
H. Fall in temperature, decline of plant life, soil displacement, disappearance of the sun
J. Disappearance of the sun, fall in temperature, decline of plant life, soil displacement

47 The author discusses the Alvarezes' description of environmental conditions at the end of the Cretaceous period in order to:

A. demonstrate that an immense meteorite hit the Earth.
B. explain why no trace of an impact crater has yet been found.
C. show that the Earth is vulnerable to meteorite collisions.
D. clarify how a meteorite may account for mass extinctions.

48 The author's statement (lines 8–9) that "Earth exists in a region of space teeming with asteroids and comets" is important to:

F. the Alvarezes' claim that an asteroid's impact caused atmospheric poisoning, acid rain, forest fires, and tidal waves.
G. the Alvarezes' view that the resulting dust cloud, rather than the impact of the meteorite, did most of the harm.
H. the Alvarezes' argument that frequent damaging collisions must have occurred.
J. traditionalists' view that topographical development of the Earth can be explained by gradual geologic processes.

49 Supporters of the Alvarezes' theory believe finding the impact crater is not necessary because:

I. the crater probably is on the ocean floor.
II. iridium occurs at the Earth's core.
III. processes like erosion and volcanic eruptions obscured the crater.

A. I only
B. I and II only
C. I and III only
D. II and III only

50 As it is used in line 2, the word *profound* most nearly means:

F. at a great depth.
G. difficult to understand
H. very important.
J. sincere

Choose your answers to questions based on a careful reading of the following passage. The selection is an excerpt from the poem *Paterson* by William Carlos Williams.

Paterson lies in the valley under
the Passaic Falls
its spent waters forming the out-
Line line of his back. He
(5) lies on his right side, head near the
thunder
of the waters filling his dreams!
Eternally asleep,
his dreams walk about the city
(10) where he persists
incognito. Butterflies settle on his
stone ear.
Immortal he neither moves nor
rouses and is seldom
(15) seen, though he breathes and the
subtleties of his
machinations
drawing their substance from the
noise of the pouring
(20) river
animate a thousand automatons.
Who because they
neither know their sources nor
the sills of their
(25) disappointments walk outside
their bodies aimlessly
for the most part,
locked and forgot in their desires
—unroused.

(30) —Say it, no ideas but in things—
nothing but the blank faces of
the houses
and cylindrical trees
bent, forked by preconception
(35) and accident—
split, furrowed, creased, mot-
tled, stained—
secret—into the body of the
light!

(40) From above, higher than the
spires, higher
even than the office towers, from
oozy fields
abandoned to grey beds of dead
(45) grass,
black sumac, withered weed-
stalks,
mud and thickets cluttered with
dead leaves—
(50) the river comes pouring in above
the city
and crashes from the edge of the
gorge
in a recoil of spray and rainbow
(55) mists—

(What common language to un-
ravel?
… combed into straight lines
from that rafter of a rock's
(60) lip.)

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51 What is being conveyed by "no ideas but in things," line 30?

(A) The individual elements of nature are more important than any idea.
(B) The automatons are more concerned with ideas than emotions.
(C) The only way to understand ideas is through things.
(D) Sleeping Paterson can't be woken up with ideas, but responds to things.
(E) Concrete things like houses and trees are more important than any idea.

52 In context, describing the "cylindrical trees" as "bent, forked by preconception / and accident" (34–35) conveys which of the following?

(A) The heaviness of nature that would bend a tree mirrors the strength of the pouring river.
(B) All nature is cut in two ("forked"); one side is biology and one side is random events.
(C) Trees are formed by a combination of biology and random events.
(D) Trees are analogous to machines that have cylinders.
(E) Trees can make us think of how humans influence nature.

53 In lines 40–50 ("From above…the river comes pouring in above"), what does the use of "even" most nearly convey in context?

(A) The river is more important than either religion (the "spires") or work ("office towers").
(B) Work ("office towers") is more important than religion ("spires").
(C) All natural elements contribute to the river.
(D) The river contributes to Paterson's abundance.
(E) The river is the most important element in Paterson.

54 The poem as a whole is best understood as

(A) a eulogy for a fading town
(B) an analysis of modern society
(C) a pledge of faith to a waterfall and a town
(D) a celebration of a waterfall and a town
(E) a rhapsody about the natural world around a town

55 One effect of the shift in the speaker's focus in the third stanza is to

(A) imply that the river is mightier than Paterson
(B) introduce the river as distinct from Paterson
(C) argue that the river creates automatons
(D) emphasize the river's central position in the poem
(E) extoll the beauty of nature around the river

56 The tone of lines 22–29 indicates that the speaker feels what about the automatons?

(A) Fear, as they are neither human nor natural
(B) Disinterest, as they are little more than statutes
(C) Approval, as they are linked with the river's power
(D) Sadness, as they cannot express human emotions
(E) Disdain, as they cannot connect with their disappointments

57 The unusual use of punctuation in lines 36–37 ("split, furrowed, creased, mot-/ tled,") and lines 56–57 ("What common language to un-/ ravel?") could be interpreted to suggest

(A) the speaker feels the world is fragmenting around the river and town, as the punctuation fragments language
(B) the speaker is emphasizing splitting and unraveling by making the words themselves split and unravel
(C) the words are moving to and fro as objects in a pouring river would move to and fro
(D) the speaker is conveying potential unexpected fragmentation in the city and the town
(E) the speaker's difficulty in finding a common language

58 If $p = -5$ and $q = -4$, then $p(p - q) =$

(A) –45

(B) –5

(C) 4

(D) 5

(E) 45

59 A coat was on sale for 50% off. Katie bought the coat, using a "$10 off the current price" coupon. If she paid $35 for the coat, what was its original price?

(A) $45

(B) $70

(C) $80

(D) $90

(E) $95

60 If the ratio of k to m is the same as the ratio of m to n, then which of the following must be true?

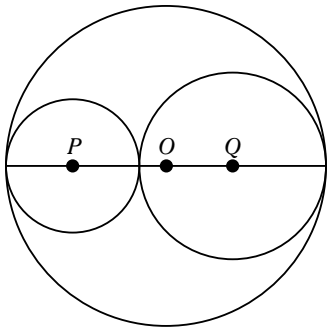
(A) $kn = m^2$

(B) $k + m = m + n$

(C) $kn = 2m$

(D) $km = mn$

(E) $k - m = m - n$



61 In this circle, point O is the center of the large circle, and points P and Q are the centers of the two smaller circles. If the distance $PQ = 6$, then the area of the large circle is

(A) 144π

(B) 72π

(C) 36π

(D) 12π

(E) 6π

62 Given that o is odd and that e is even, which of the following must be odd?

(A) oe

(B) $(o - e)(o + e)$

(C) $o(o + 1)$

(D) $(e + 1)(o - 1)$

(E) $e(o - e)$

63 A train leaves the station at 10:45 p.m. and arrives at its destination at 2 a.m. the next day (without changing time zones). The train was stopped for ½ hour while it had engine trouble; the rest of the time, its average speed was 80 miles per hour. What total distance did the train travel?

(A) 120 miles

(B) 140 miles

(C) 220 miles

(D) 240 miles

(E) 260 miles

64 How many hours are in w weeks and d days?

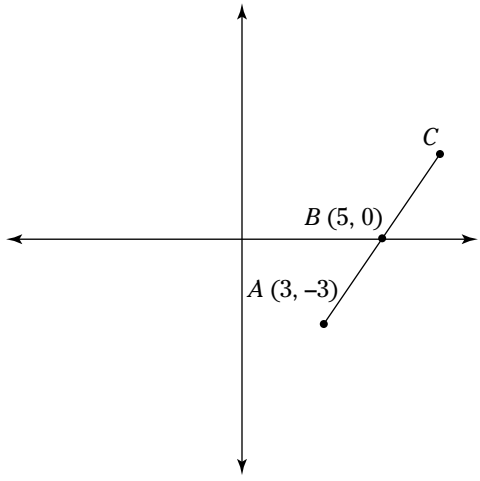
(A) $7w + d$

(B) $168w + 24d$

(C) $24w + 168d$

(D) $168w + d$

(E) $7w + 24d$



65 Given that B is the midpoint of line segment AC, which of the following is not true?

(A) The distance from A to C is 5 units.

(B) Point C has coordinates (7, 3).

(C) The distance from A to B is equal to the distance from B to C.

(D) The line segment connecting A to B has the same slope as the line segment connecting B to C.

(E) The slope of AC is positive.

66

Getting ready for a party, Nandan expected to set up ⅓ of the tables needed. Unfortunately, one of the people helping him did not show up. As a result, he now had to set up ½ of the tables. If he had to set up 4 more tables than he expected, what was the total number of tables set up for the party?

(A) 8

(B) 12

(C) 20

(D) 24

(E) 30

67

Which of the following equations would have a graph that passes through the point (–1, 4)?

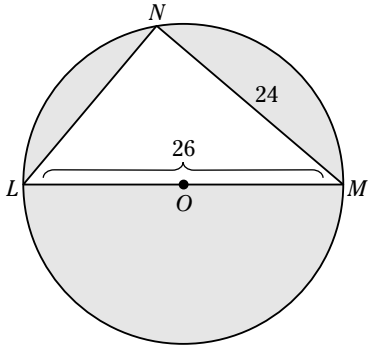
(A) $y = x - 5$

(B) $x + y = 5$

(C) $-x + 3 = y$

(D) $2y - 3x = 5$

(E) $y = x^2 + 5$



68

Find the shaded area in this figure, where O is the center of the circle.

(A) $676\pi - 240$

(B) $676\pi - 120$

(C) $576\pi - 120$

(D) $169\pi - 240$

(E) $169\pi - 120$

69

The three-digit number ABC has the following properties:

The middle digit is the sum of the first and last digits.

None of the digits repeat.

ABC is divisible by 5.

Which of the following could equal B?

(A) 6

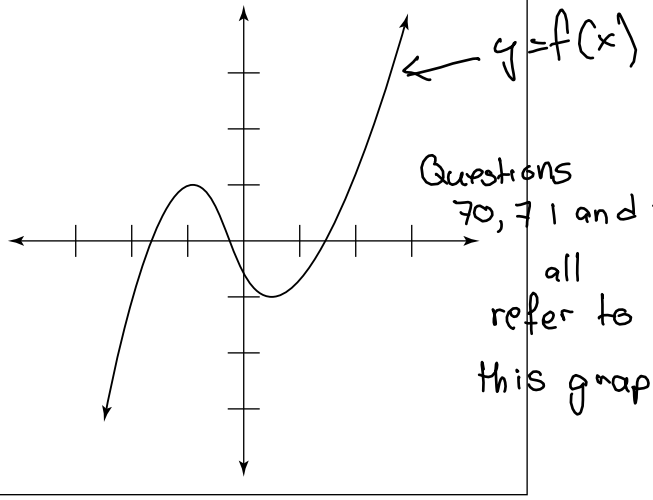
(B) 5

(C) 4

(D) 3

(E) 2

Questions 70-72 deal with the following graph of $f(x)$:



Questions 70, 71 and 72 all refer to this graph

70 The number of solutions to $f(x) = 0$ is

(A) 0

(B) 1

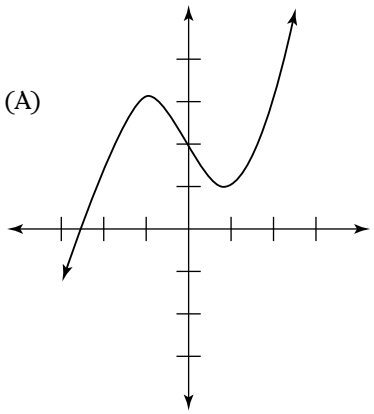
(C) 2

(D) 3

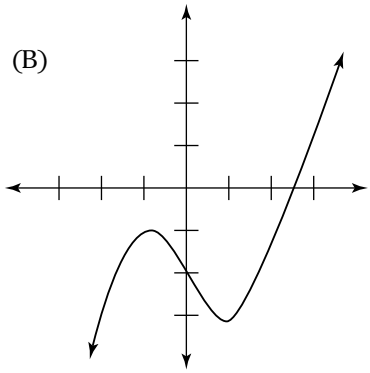
(E) It cannot be determined from the graph alone.

71 Which of the following graphs represents $f(x) - 2$?

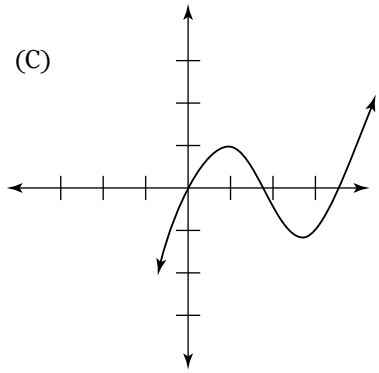
(A)



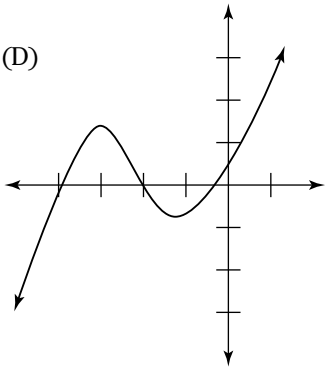
(B)



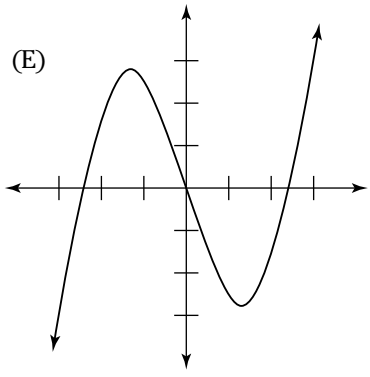
(C)



(D)



(E)



72 If a line were drawn connecting $f(3)$ and $f(-2)$, the slope of this line would be

(A) positive

(B) negative

(C) zero

(D) not a real number

(E) It cannot be determined from the graph alone.

If $|a - b| < 4$

73 and $|a| < 3$, then b could be

(A) –8

(B) –7

(C) –6

(D) 7

(E) 8

74 At 1 p.m., a 5-foot-tall boy casts a shadow that is 1 foot, 3 inches long. How tall is a tree that casts a shadow that is 7 feet long at the same time?

(A) 35 feet

(B) 28 feet

(C) 26 feet, 9 inches

(D) 10 feet, 9 inches

(E) 1 foot, 8 inches

75 If $vw = x$, $wx = y$, and $xy = z$, which of the following would be equal to yz?

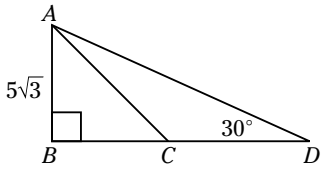
(A) v^2w^2

(B) v^3w^5

(C) v^4w^4

(D) v^4w^6

(E) v^5w^8



76 In this triangle, *AC* bisects angle *BAD*. Find *AC*. (Figure is not drawn to scale.)

(A) $5\sqrt{2}$

(B) $5\sqrt{3}$

(C) $10\sqrt{3}$

(D) 5

(E) 10

77 Rick and Jacob play a game in which each one rolls two six-sided dice (each die is numbered from one to six). Rick's score is the sum of his two rolls. Jacob's score is three times the lowest number that he rolls; for example, if he rolls a 2 and a 5, his score is 6. On his first roll, Rick rolls a 4 and a 5. Find the probability that Jacob's rolls will result in his having exactly the same score as Rick.

(A) $\frac{1}{12}$

(B) $\frac{7}{12}$

(C) $\frac{1}{36}$

(D) $\frac{7}{36}$

(E) $\frac{9}{36}$

78

What is the product of the smallest prime number and the largest negative integer?

A. –2
B. –1
C. 0
D. 1
E. Negative infinity

79

How many even integers are there between –7 and 7?

F. 11
G. 10
H. 8
J. 7
K. 6

80

Jane has read 108 pages from a book. Kevin is reading the same book, and has 80 pages left to read. If there are 200 pages in the book, by how many percent is the number of pages left for Jane greater than for Kevin?

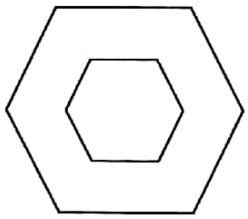
A. 58%
B. 60%
C. 25%
D. 20%
E. 15%

81

The operation ◗◖ is defined for all nonzero numbers by ◗X◖ = 3X – 1. Find ◗5◖ + ◗–7◖.

F. –8
G. –7
H. –6
J. 6
K. –36

82



Two similar regular hexagons have a common center. If each side of the big hexagon is twice the side of the small one and the area of the small hexagon is 3 sq. in, what is the area of the big hexagon?

A. 6 sq. in.
B. 9 sq. in.
C. 12 sq. in.
D. 16 sq. in.
E. 24 sq. in.

83

$\sqrt{169} - \sqrt{144} = \sqrt{N}$. Find N.

F. 1
G. 2
H. 5
J. 12.5
K. 25

84

Round 98.9998 to the nearest thousandths.

A. 99.000
B. 98.900
C. 98.990
D. 99.990
E. 100

85

There are 20 lab mice in a cage. For every 3 gray mice, there is 1 white mouse. How many gray mice are there?

F. 3
G. 6
H. 9
J. 15
K. 19

86

Solve the equation for x:
$3 + (1 \div x) = 2$

A. -2
B. -1
C. 0
D. 1
E. 2

87

What is the smallest 3–digit number that is divisible by 3, but not divisible by 6?

F. 102
G. 103
H. 105
J. 109
K. 111

---

88 If $a(a - b) = 117$ and $ab = 52$, what is a?

A. 13
B. 11
C. 9
D. 7
E. 4

---

89 $(29.8)(17.9) - (29.8)(7.9) =$

F. 29
G. 298
H. 289
J. 28.9
K. None of these

90 There are a few red marbles and a few green marbles in the bag. If the ratio of the number of red marbles to the number of green marbles is 7 : 8, what could be the total number of marbles in the bag?

A. 12
B. 13
C. 19
D. 23
E. 30

---

91. The sum of 7 consecutive odd numbers is 91. What is the sum of the two largest numbers in this set?

F. 36
G. 35
H. 34
J. 33
K. 32

92 The product of 8 numbers is negative. At most how many of these 8 numbers are negative?

A. 8
B. 7
C. 6
D. 5
E. 1

---

93 What is the largest possible value of y, if $y = -|3 - x| + 5$?

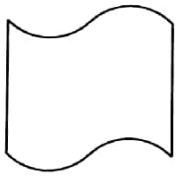
F. 3
G. 5
H. 8
J. 11
K. 17

---

94 If $A > B$, $C < A$, $D < B$, and $E = D$, the largest number is:

A. A
B. B
C. C
D. D
E. Cannot be determined

---

95 

How many lines of symmetry does the figure above have?

F. 0
G. 1
H. 2
J. 3
K. 4

---

96 Kevin got 80% on the test, and Eli got a 96%. By what percent is Eli's score higher than Kevin's score?

A. 10%
B. 16%
C. 20%
D. 25%
E. 26%

97 For the set of integers {2, 3, 7, X, 9}, find X if 7 is the median of the set.

F. 7
G. 8
H. 9
J. 10
K. Cannot be determined

---

98 If the area of a square is numerically twice the perimeter of that square, what is the side of the square?

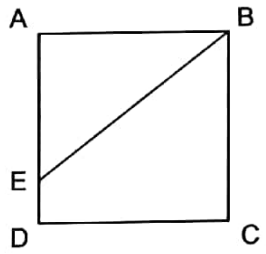
A. 8
B. 7
C. 6
D. 5
E. 1

---

99 Danny has only quarters and pennies in his piggy bank. The number of quarters is the same as the number of pennies. Which of the following amounts is a possible total of the money in the piggy bank?

F. \$1.17
G. \$2.25
H. \$4.80
J. \$7.80
K. \$8.70

100



ABCD is a square with area 16 cm^2. If DE is one–fourth of AD, what is the area of DEBC?

A. 12 cm^2
B. 11 cm^2
C. 10 cm^2
D. 8 cm^2
E. 4 cm^2

---

101 If some proper fraction and its reciprocal are added together, the result is 2.9. What is the fraction?

F. $\frac{1}{2}$
G. $\frac{1}{3}$
H. $\frac{2}{3}$
J. $\frac{2}{5}$
K. $\frac{2}{7}$

102

12112111211112...

If the pattern above is continued, what will be the sum of all digits from 40^{th} to 44^{th} position?

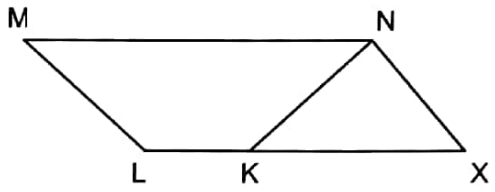
A. 7
B. 6
C. 5
D. 4
E. 3

103

Find the average of $2b$, $5b$, $7b$, and $10b$.

F. $2b$
G. $6b$
H. $2b + 1$
J. $2b - 1$
K. $12b$

104



KLMN is an isosceles trapezoid with LM = KN and $\angle M = 42°$. If the measure of $\angle KNX$ of the triangle KNX is 88°, find the measure of angle X.

A. 36°
B. 44°
C. 50°
D. 56°
E. 62°

105

What is the smallest integer that can be added to 109,456 to make the result divisible by 7?

F. 2
G. 3
H. 4
J. 5
K. 6

106

Security checkpoint A checks every 3rd piece of luggage, and security checkpoint B checks every 4th piece of luggage. How many pieces of luggage in a batch of 200 will be checked twice?

A. 20
B. 18
C. 17
D. 16
E. 15

107

If $2x^2 - 3x = 5$, what is $4x^2 - 6x + 1$?

F. 11
G. 12
H. 26
J. 27
K. None of these

108

Find the area of the triangle ABC, if A(−1, 3), B(2, 3), and C(4, 5).

A. 2 units^2
B. 3 units^2
C. 4 units^2
D. 6 units^2
E. 6.25 units^2

109

Express C in terms of X and Y, if $Y = 2C - 3X$.

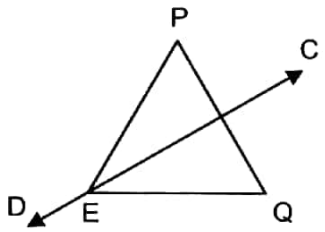
F. $C = 0.5(3X + Y)$
G. $C = 1 - 3X$
H. $C = 0.5(3X - Y)$
J. $C = 3X + Y$
K. $C = 2Y - 3X$

110

The average of 4 different positive integers is 11. What is the greatest possible value one of these integers could have?

A. 44
B. 41
C. 39
D. 38
E. 36

111



Line CD forms a right angle with the side PQ of the equilateral triangle EPQ. Find the measure of the angle DEP.

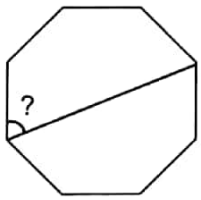
F. 160°
G. 150°
H. 130°
J. 120°
K. 110°

112

There are 25 color chips in the box. The probability of picking a red chip is 0.2. How many red chips must be added to increase the probability of getting red to 0.5?

A. 20
B. 15
C. 10
D. 8
E. 6

113



What is the degree measure of the angle between the longest diagonal of a regular octagon and its side?

F. 67.5°
G. 68°
H. 68.5°
J. 70°
K. 75°

114

If $-6 \leq x \leq -4$ and $4 \leq y \leq 6$, what is the smallest possible value of xy?

A. 0
B. −6
C. −16
D. −24
E. −36